

FORMING GAS TURBINE TRANSITION DUCT BODIES WITHOUT LONGITUDINAL WELDS

Abstract

A method of making combustion turbine transition duct bodies without longitudinal welds by hydroforming two duct bodies back to back with bellowed bellows thrusters secured to the duct body open ends. This enables the manufacture of duct bodies with detailed features and high pressure without compression cylinders. Multi-layer transition duct bodies can also be assembled with layers of different materials, for example, having a heat-resistant layer inside and high strength layer outside. They can be assembled using cold shrinking and heat expanding. In addition, anti-fretting and anti-vibration coatings can be applied between the layers for improved performance.